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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,732	09/01/2000	Andrew Joseph Paszkowski	011916.107912	5800

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EXAMINER

BARRY, CHESTER T

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/653,732

Applicant(s)

PASZKOWSKI, ANDREW JOSEPH

Examiner

Chester T. Barry

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 18-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: \_\_\_\_\_

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 - 9, 18-25, drawn to a purification method, classified in class 210, subclass 660+.
- II. Claims 10 - 17, drawn to an apparatus, classified in class 210, subclass 263+.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. The apparatus claims are not limited to the fluids worked upon.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

During a telephone conversation with Jackie Hailey (Todd Deveau's assistant) on or about 7/15/02 a provisional election was made without traverse to prosecute the invention of Group I, claims 1 - 9, 18-25. Affirmation of this election must be made by

applicant in replying to this Office action. Claims 10-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 1 – 9 are rejected under 35 USC 112(2) as failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. It is not clear what "stream" is referred to at line 3. Lines 1 and 2 do not refer to a stream of potassium silicate. This basis for rejection may be overcome by deleting "stream" from the claim. It is unclear whether the claim is limited to continuous flow processes or whether batch processing is covered by the claims.

Furthermore, it is unclear what limitations are implicit in recitation of the expressions "colloidal silica." Paraphrasing claim 1, Claim 1 appears to require no more than removing potassium ions from a quantity of potassium silicate via an ion exchange process, and removing sodium ions from the resulting material via ultrafiltration, and yet the claim appears to imply that "colloidal silica" results from the ion exchange step. It is unclear what further processing steps are required by way of implication through recital of the "colloidal silica" phrase, e.g., mixing the potassium silicate with water, or selection of potassium silicate having a defined particle size mixed with water.

For the purposes of search, colloidal silica is construed as an aqueous suspension of amorphous, i.e., non-crystalline, silica spheres not larger than about 80 nm in diameter.

Claims 1 – 9, 18-25 are rejected under 35 USC 103(a) as being obvious over the ZACSIL® E200 brochure or applicants' admission, further in view of USP 6334880 to Negrych and USP 5458812 to BREKAU.

ZACSIL® E200 brand electronics grade ultra pure potassium silicate solution contains less than 100 ppm sodium and was commercially available before applicants invented the claimed subject matter (as admitted at page 4 line 20) (even though [http://www.zaclon.com/pdf/zace200\\_datasheet.pdf](http://www.zaclon.com/pdf/zace200_datasheet.pdf), last revised "Feb. 2002," does not show a date prior to 9/1/2000, the effective filing date of this application).

USP 6334880 to Negrych describes the "well known technique of subjecting potassium silicate solutions to ion exchange to produce ultrafine silica particles suitable for CMP polishing (Negrych col 2 line 15-20). Accordingly, it would have been obvious to have subjected the sub-100 ppm sodium potassium silicate solution of ZACSIL® E200 to an ion exchange process to produce ultrafine silica particles.

USP 5458812 to BREKAU describes ultrafiltration as a means by which high concentration colloidal silica can be produced to accomplish the "obvious" advantage of reduced transportation and storage costs (col 1 line 14). It would have been obvious, therefore, to have ultrafiltered the ion-exchanged silica suggested by Negrych to achieve the obvious advantages of lower transportation and storage costs accomplished through concentration of the silica.

Per claims 18 – 25, it would have been obvious to have regenerated the ion exchange resin and to have recovered the captured potassium ion as a useable substance using known methods.

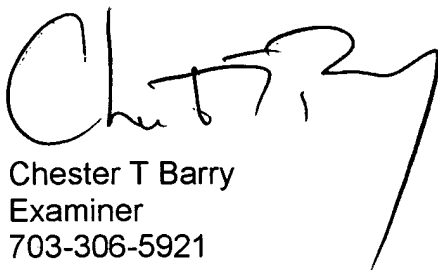
Claims 1 – 9, 18-25 are rejected under 35 USC 103(a) as being obvious over WO 99/01377 to KEMPRO in view of Bird or Iler. KEMPRO describes cation exchange of a sodium silicate solution followed by ultrafiltration. USP 2244325 to Bird is cited for the suggestion to substitute potassium silicate for any process describing manufacture of colloidal silica from sodium silicate. Similarly, USP 3969266 to Iler is cited for the recognition that any alkali metal silicate can be used (col 2/line 60). Bird or Iler suggests substitution of potassium silicate for sodium silicate as a starting material. Accordingly, it would have been obvious to have substituted potassium silicate for sodium silicate in the process described by KEMPRO.

Per claims 18 – 25, it would have been obvious to have regenerated the ion exchange resin and to have recovered the captured potassium ion as a useable substance using known methods.

USP 5352277 to Sasaki is cited of interest.

USP 3440176 to Sippel is cited of interest.

USP 5100581 to Watanabe is cited of interest.

  
Chester T Barry  
Examiner  
703-306-5921